

Docket No. AUS920010275US1

CLAIMS:

What is claimed is:

1. A method for service time analysis in a computer
5 network, comprising:
 - receiving a request from a network client machine
for an electronic document and recording an initial time
value for the request;
 - forwarding the request to an origin server and
10 receiving a response stream containing the electronic
document from the origin server;
 - sending the response stream to the client machine,
wherein the response stream is instrumented;
 - receiving a uniform resource identifier (URI)
15 request from the client machine, wherein the request is
for a resource embedded within the electronic document,
and recording a service time value for completing the
request for the electronic document;
 - forwarding the URI request to the origin server and
20 receiving a URI response from the origin server;
 - updating the service time value; and
 - sending the URI response to the client machine.
2. The method according to claim 1, further comprising
25 a key/value table, wherein the key is a cookie in a
request header and the value is a time stamp signifying
the service time for a request.
3. The method according to claim 1, wherein the
30 instrumented response stream further comprises:
 - the initial time value of the request; and
 - service time taken for the origin server to respond.

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4. The method according to claim 1, wherein all steps are performed by a single reverse proxy server.

5 5. The method according to claim 1, wherein the steps are performed by multiple reverse proxy servers, wherein one server acts as the controlling quality-of-service monitor and the other servers are subordinate to the controlling monitor.

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6. The method according to claim 5, wherein:
the controlling monitor sends a sample-on command to the subordinate servers;

15 in response to the sample-on command, the subordinate servers record service time metrics for request transactions;

the controlling monitor sends a sample-off command to the subordinate servers;

20 in response to the sample-off command, the subordinate servers send their respective service time records to the controlling monitor; and

the controlling monitor analyzes and reorganizes the service time records from the subordinate servers into a single record.

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7. A computer program product in a computer readable medium for use in a data processing system, for service time analysis in a computer network, the computer program product comprising:

30 instructions for receiving a request from a network client machine for an electronic document and recording an initial time value for the request;

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instructions for forwarding the request to an origin server and receiving a response stream containing the electronic document from the origin server;

5 instructions for sending the response stream to the client machine, wherein the response stream is instrumented;

10 instructions for receiving a uniform resource identifier (URI) request from the client machine, wherein the request is for a resource embedded within the electronic document, and recording a service time value for completing the request for the electronic document;

15 instructions for forwarding the URI request to the origin server and receiving a URI response from the origin server;

instructions for updating the service time value; and

instructions for sending the URI response to the client machine.

20 8. The computer program product according to claim 7, further comprising a key/value table, wherein the key is a cookie in a request header and the value is a time stamp signifying the service time for a request.

25 9. The computer program product according to claim 7, wherein the instrumented response stream further comprises:

the initial time value of the request; and
service time taken for the origin server to respond.

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11. The computer program product according to claim 7,
wherein the instructions are performed by multiple
reverse proxy servers, wherein one server acts as the
controlling quality-of-service monitor and the other
10 servers are subordinate to the controlling monitor.

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        instructions for sending a sample-on command from
15  the controlling monitor to the subordinate servers;

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        instructions for sending a sample-off command from
20  the controlling monitor to the subordinate servers;

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instructions for the controlling monitor to analyze
25 and reorganize the service time records from the
subordinate servers into a single record.

30 a first receiving component which receives a request
from a network client machine for an electronic document
and records an initial time value for the request;

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a first communication component which forwards the request to an origin server and receives a response stream containing the electronic document from the origin server;

5 a second communication component which sends the response stream to the client machine, wherein the response stream is instrumented;

a second receiving component which receives a uniform resource identifier (URI) request from the client
10 machine, wherein the request is for a resource embedded in the electronic document, and records a service time value for completing the request for the electronic document;

a third communication component which forwards the
15 URI request to the origin server and receives a URI response from the origin server;

an updating component which updates the service time value; and

a fourth communication component which sends the URI
20 response to the client machine.

14. The system according to claim 13, further comprising a register which maintains a key/value table, wherein the key is a cookie in a request header and the value is a
25 time stamp signifying the service time for a request.

15. The system according to claim 13, wherein the instrumented response stream further comprises:
the initial time value of the request; and
30 service time taken for the origin server to respond.

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16. The system according to claim 13, wherein all components are contained in a single reverse proxy server.

5 17. The system according to claim 13, wherein the components are contained in multiple reverse proxy servers, wherein one server acts as the controlling quality-of-service monitor and the other servers are subordinate to the controlling monitor.

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18. The system according to claim 17, further comprising:

a first communication component which sends a sample-on command from the controlling monitor to the subordinate servers;

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a plurality of recording components in the subordinate servers which, in response to the sample-on command, record service time metrics for request transactions;

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a second communication component which sends a sample-off command from the controlling monitor to the subordinate servers;

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a plurality of response components in the subordinate servers which, in response to the sample-off command, send their respective service time records to the controlling monitor; and

a processor in the controlling monitor which analyzes and reorganizes the service time records from the subordinate servers into a single record.

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